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Winter Lecture Programme, 1951-1952.

All lectures at 7.30 p.m. at the Caxton Hall, S.W.1.
unless otherwise stated.

January

3rd—Mr. E. Sykes, Psychomatic Society, 6.30 p.m.

11th—Mr. H. N. Bickle—The Hoerbiger Theory.

20th—Mr. E. Sykes, Brighton T.S., 3.00 p.m.

22nd—Mr. E. Sykes, Forum Club, 2.00 p.m.

25th—Miss Etherington—The Origin of the Native British Horse.

February

15th—To be announced later.

29th—Mr. L. Edwards — Stonehenge in Literature and Myth.

It is hoped to arrange for lectures during 1952 by Mrs. Culverwell, Col. Fenwick and Mr. R. C. Thornton.

CHANGE OF ADDRESS—The address of the Hon. Secretary is now: 14, Montpelier Villas, Brighton, Sussex.





The Schliemann Mystery

by EGERTON SYKES

On Sunday, November 17th, 1912, at a time when I had scarcely begun to take any serious interest in Atlantean matters, there appeared in the *Weekly Budget*—a Sunday paper on American lines recently started in London by the Hearst Press—a sensational article by Dr. Paul Schliemann, grandson of the great archaeologist, who had discovered Troy some fifty years earlier. The article was entitled "How I found the Lost Atlantis", and had appeared in the *New York American* on the 20th October, a month earlier.

Even after 39 years I can recall the excitement with which I read how Dr. Heinrich Schliemann, who had died in Naples in 1890, had, a few days before his death, handed to one of his closest friends, a sealed envelope on which was written "To be opened *only* by a member of my family who solemnly vows to devote his whole life to the researches outlined therein", and, how a few hours before his end, on his death-bed, had called for a pencil and paper, and had written: "Confidential addition to the sealed envelope—break the owl-headed vase. Pay attention to the contents. It concerns Atlantis. Investigate the east of the ruins of the Temple of Sais and the Cemetery of the Chacuna Valley. Important. It proves the system. Night approaches. Lebewohl".

I was impelled to read how further Paul Schliemann, the grandson, after having studied in the Orient, in Russia and in France, decided to claim, and open the envelope in which none of his father's generation had been interested. In the course of a couple of generations, the papers had been handed over to a French Bank and, after Paul had collected them, he opened the envelope and found a long communication from Heinrich, of which the following portions have come to us:—

(1) "I have come to the conclusion that the Lost Atlantis was not only a great territory between America and the West Coast of Africa and Europe, but the cradle of our civilisation, as well. There has been much dispute amongst scientists in this matter. According to one group, the tradition of Atlantis is purely fiction founded upon fragmentary accounts of a deluge some thousand of years before the Christian

era. Others declare the tradition wholly historical, but incapable of absolute proof.

(2) "In the included material, records are to be found, the proofs which exist in my mind of the matter. Whoever takes the charge of this mission, is solemnly obligated to continue my researches, and to form a definite statement, using as well the matter I leave with this, and crediting me with my just dues in the discovery. A special fund is deposited in the Bank of France to be paid to the bearer of the enclosed receipt, and this should pay the expenses of the research. The Almighty be with this great effort".

(3) "When in 1875 I made the excavation of the ruins of Troy at Hissarlik, and discovered in the second city the famous Treasure of Priam, I found among that treasure, a peculiar bronze vase of great size. Within it were several pieces of pottery, various small images of peculiar metal, coins of the same metal, and objects made out of fossilised bone. Some of these objects, and the bronze vase, were engraved with a sentence in Phoenician hieroglyphics. The sentence read: From the King Chronos of Atlantis.

(4) "You who read can imagine my excitement! Here was the first, the very first, material evidence of that great continent, whose legend had lived for ages throughout the world. This material I kept secret, eager to make it the basis of investigations, which I felt would prove of infinitely more importance than the discovery of a hundred Troys.

(5) "In 1883, I found in the Louvre, a collection of objects excavated from Tiahunaca in Central America—(*This was obviously a misprint, either it should have been Tiahunaca in South America, or Teohuatican in Central America. If the first is correct it would provide the earliest suggested link between the Lake Titicaca culture and Atlantis.*) Among these I discovered pieces of pottery of exactly the same shape and material, and objects of fossilised bone which reproduced, line for line, those which I had found in the bronze vase of the Treasure of Priam! The similarity could not be a coincidence. The shape and decorations were too simple for that. It is beyond the range of coincidence for two artists in such widely separated countries as Central America and Crete—(*An obvious misprint for Asia Minor, and one which appears to have passed*

unnoticed by those critics of the story who seized on the first one—to make two vases, and I mention only one of the objects, of exactly the same shape, the same size, and with curious owl's heads arranged the same way on each.

(6) "The Central American Vases had no Phoenician characters upon them, nor writing of any sort. I hurried away to examine my own objects, and by tests and exhaustive examinations became convinced that the inscriptions had been made by other hands after the objects themselves had been manufactured.

(7) "I secured pieces of these simulacrums from Tiahuanaca—(*Here the same observations as before regarding misprints applies*)—and subjected them to chemical and microscopic analysis. These tests proved conclusively that both the Central American vases, and those from Troy, had been made from the same peculiar clay, and, I learned later, further and definitely, that this clay does *not* exist either in old Phoenicia, nor in Central America.

(8) "The metal objects I had analysed because I could not recognize what they were made of. The metal was unlike any I have ever seen. The chemical analysis showed the material to be platinum, aluminium and copper—a combination never before found in the remains of the ancients and unknown today.

(9) "Objects then, perfectly similar and having unquestionably a common source, were found in such widely separated countries as these. The objects themselves are not Phoenician, Mycenaean, nor Central American. What is the conclusion? That they came to both places from a common centre. The inscription on the objects gave that centre—it was Atlantis.

(10) "That the objects were held in great veneration is shown from their presence among the Treasure of Priam, and the special receptacle which held them. Their character left me no doubt that they were objects of sacred ceremonies, and from the same temple.

(11) "This extraordinary discovery, and my failing health, induced me to push more rapidly my investigations. I found in the Museum at St. Petersburg, one of the oldest papyrus rolls in existence. It was written in the reign of

Pharaoh Sent (Senedi) in the Second Dynasty, or 4,571 B.C. It contained a description of how the Pharaoh named, sent out an expedition 'to the West' in search of the traces of the Land of Atlantis whence 3,350 years ago the ancestors of the Egyptians arrived carrying with themselves all the wisdom of their native lands. Another papyrus in the same museum written by Manetho, refers to a period of 13,900 years as the reign of the sages of Atlantis. This papyrus places this at the beginnings of Egyptian history; it approximates 16,000 years ago.

(12) "An inscription which I excavated at the Lion Gate at Mycenae in Crete (*this should read Greece*) recites that Misor, from whom, according to the inscription, the Egyptians were descended, was the child of Taaut or Thoth, the God of History, and that Taaut was the emigrated son of a 'Priest of Atlantis', who, having fallen in love with a daughter of King Chronos, escaped and landed after many wanderings in Egypt. He built the first temple at Sais, and there taught the wisdom of his native land. This full inscription is most important and I have kept it secret. You will find it among the papers.

(13) "One of the tables of my Trojan excavations gives also a medical treatise of the Egyptian priests—for there was communication between Crete (*read Asia Minor*) and Egypt for many centuries—for the removal of a cataract from the eye, and an ulcer from the intestines, by means of surgery. I have read almost a similar formula in a Spanish manuscript in Berlin, whose writer took it from an Aztec priest in Mexcio. That priest had gotten it from an ancient Mayan manuscript.

(14) "In coming to my conclusions, I must say that neither the Egyptians nor the Mayan race that made the civilisation of Central America were great navigators. They had no ships to cross the Atlantic. Nor did they. We can dismiss the agency of the Phoenicians as a real link between the two hemispheres. Yet the similarity of Egyptian and Mayan life and civilisation is so perfect that it is impossible to think of it as an accident. We find no such accidents in nature or history. The only possibility is that there was, as the legend says, a great continent that connected what we now call the New World with what we call the Old. Perhaps

at this time what there was of Europe and America, was populated with monsters. Africa possibly had a monkey-like negro race. Man, in our sense, had not overrun them. But there was a land where civilisation as high as that we now know and perhaps even higher, was flourishing. Its outskirts were the edge of the wilderness. It was Atlantis. From Atlantis came colonies that settled in Egypt and Central America.

(15) "The religion of Egypt was pre-eminently Sun Worship. Ra was the Sun God of the Egyptians. The religion of the Mayas of Central America was the same. Ra-Na was the God of the ancient Peruvians.

(16) "My long archaeological studies of various nations have proven all of them to show traces of their earliest childhood and maturity. But I have failed to find any trace of a rude and savage Egypt, or a rude barbarous Maya race. I have found both these nations mature in their very earliest period, skilful, strong and learned. I never have found a time when they lacked the ability to organize their labour, nor lacking in ability to dig canals, build highways, pyramids and temples, to irrigate fields, nor a time when they did not know medicine, astronomy, and the principles of highly organized government. Like the Mayas, the Egyptians practised monogamy, and they built their cities and temples in the same style, exhibiting a technical knowledge and skill that remains a puzzle to the engineers of this age. Neither Egyptians nor Mayas were a black race, but yellow. Both nations had slaves and an intellectual class, but the relations between the classes were cordial and humane. Their basic principles of government were the same.

(17) "Lepsius found the same sacred symbols in the ceremonials of the Egyptians as in the Peruvians. Le Plongeon, the great French archaeologist (*le Plongeon was an American citizen at the close of his life, but of French descent*) recovered in Chichen-Itza in Yutacan, the figure of a god, who was club-footed, and who bore in every way the attributes of the great god Thoth of the Egyptians.

(18) "In the Egyptian and the American pyramids, the outside was covered with a thick coating of smooth and shining cement of such strength as our builders are unable

to get. Humboldt considered the pyramid of Choula to be of the same type as the Temple of Jupiter at Belus.

(19) "In both America and Egypt, the pyramids were built in the same style. I have found the pyramids on both sides of the Atlantic with their four sides pointing astronomically like the arms of the cross, in the same directions. In both, the line through the centre is in the astronomical meridian. The construction in grades and steps is the same, and in both cases the larger pyramids are dedicated to the Sun."

These paragraphs comprise the whole of the account of Heinrich Schliemann which has come down to us.

Before passing to investigations and researches of his grandson, it should be noted that the style is that of a German text of 60 years ago, translated into American journalese of 1912. The use of the term "gotten" in paragraph 13, was current in the U.S.A. in 1912, and still is, though to a lesser extent. As far as is known Heinrich Schliemann wrote all his private notes in German up to his death.

The attitude of mind of the elder Schliemann, is also that of his period, a time when it was customary on the part of all the great ones to assume that the present, the past, and the future were as open books, and that once they had spoken, there was nothing more to be said. The occasional errors in the text may be put down to careless proof-reading.

It must be recollected that although Heinrich Schliemann was one of the world's most distinguished authorities on the archaeology of the Mediterranean Basin, at the beginning of his professional career it was one long fight against professional unbelief and had he not been willing to risk his own personal fortune to achieve his ambitions, Troy might still be a legend and not a fact. For this reason, added to the fact that he only began his Atlantean investigations in 1883, seven years before his death, it is quite understandable why he felt that they should be conducted by somebody who had youth and energy on his side.

Alexander Bessmertny, in his book "Atlantis"—which a friend and I translated into English just before the war, only to lose the translation to the Germans in 1939—gives the text of a letter which he received on this subject from William Dorpfeld, a collaborator of Heinrich Schliemann. It reads—

" I willingly reply to your question relative to the statement of Paul Schliemann, by informing you that I had already been asked about this subject some years ago, but I cannot at the moment say by whom. As far as I can recollect, I replied then as I am doing now. To my knowledge Heinrich Schliemann never occupied himself in any deep manner in the question of Atlantis. At least I never heard any allusion to work of this kind, although I was his collaborator from 1882 until his death in 1890. But Schliemann spoke sometimes on the question of Atlantis, and I consider it possible that he may have put together some notes relating to this question. However, I do not believe in the existence of an original work of his on this theme."

Unfortunately Dorpfield did *not* say whether the few paragraphs which have been quoted here, were in the style of Heinrich Schliemann or not, neither did he give any indication about Paul Schliemann, which is to be regretted.

The next problem to be considered is the research work which Paul Schliemann, himself, undertook on the basis of his grandfather's notes. Here investigation should be easier, as there are many persons still alive who were in their prime about 1906, when Paul began his explorations, and who could assist us.

In 1905 or 1906, having completed his studies in Russia, Germany and the Orient, he decided to accept his grandfather's challenge—which the other members of the family had refused as " No one desired to devote his life to something he could know nothing about until it was too late to recede ".

He went to the French Bank where the envelopes were deposited and after reading the contents, took over the collection of objects, and after hesitating for several days proceeded to break the owl-headed vase, only to find in it a square of the white silver-like metal on which was drawn strange figures and an inscription. On the obverse was engraved in Phoenician—" Issued in the Temple of the Transparent Walls ". He observed that the neck of the bottle was too small for its insertion, so could only presume that his grandfather had had similar vases in his possession which he had broken. Paul was under the impression that the vase

itself came from Atlantis, but there is no evidence to justify this.

The fact that the vase bore on it the inscription "From King Chronos at Atlantis", would indicate that at some later date, each of these medallions was enclosed in a vase for security, and that some of these vases bore this inscription. As there are lots of owl-headed vases in various museums, it would be of interest to have some of them X-rayed to see if any medallions are contained therein. Incidentally Chronos may well have been a Royal title rather than the name of an individual.

The remainder of the collection consisted of a ring of similar metal to the medallions, an elephant of fossilised bone and an archaic vase, also a reproduction of the map used by the Egyptian captain in looking for traces of Atlantis.

Paul then proceeded to Sais to see what he could find there. At first he found nothing, which is not surprising as on the occasion when I visited Sais in 1941, I came to the conclusion that nothing short of mechanical excavators and bulldozers would ever make an impression on those square miles of sand which had been looted by all for over two thousand years. However, he later made the acquaintance of an Egyptian, who showed him some objects he had taken from the nearby sarcophagus of a priest of the 1st Dynasty, among them were two medallions of the same type as those found in the vase from Troy.

After having completed his investigations at Sais, Paul then called to his aid two French geological experts and investigated the Atlantic coast of Morocco at the points indicated by Heinrich. Here he found traces of great volcanic activity, and also signs that for many miles volcanic activity had chopped the land from the sea. During the course of these investigations he found the head of a child in a white metal similar to the others, but encrusted with volcanic ash. He said, "The full results of the survey I cannot go into here, they were immensely important, and are supported by other testimony than my own."

Later he went to Paris, and persuaded the owner of the Central American collection mentioned by Heinrich, to allow him to break the owl-headed vase, in which he found yet

another medal, but with a different inscription. From there he proceeded to Central America, to Mexico, and to Peru. His excavations in the cemetery of the Chucuna Valley brought to light Owl-headed vases but no medals, although he got some inscriptions which he wrote "will startle the world". Later at the pyramid of Teohuatican, he found further medals, but without inscriptions.

That brought the number of his clues to six:—

1. The medal from his grandfather's owl-headed vase from Troy.
- 2, 3. The two medals from Sais.
4. The head from Morocco.
5. The medal from the owl-headed vase from Central America.
6. The medals from Teohuatican.

The assumption that the medals were used as coinage would appear to be wrong. It is more likely that they were token receipts for votive offerings.

Paul goes on to say: "Among the facts which I have to reveal in my book, there are clear indications of the site of the City of the Golden Gates, and two clear references to the Temple of Transparent Walls".

"Did the word transparent have a symbolic meaning or did there really exist a structure with transparent walls? It is not known. However, I can prove that the Phoenicians got their knowledge of glass-making from the "People who lived beyond the Pillars of Hercules".

The statement concludes by quoting in extenso two of the most disputed texts in the whole history of Atlantean Research. These are the translation of the Troano Codex made by Le Plongeon, and the Chaldean Inscription from Lhasa. As both of them are frequently quoted, usually without reference to the source, they are given below in full.

THE TROANO CODEX AS TRANSLATED BY LE PLONGEON

(This codex is in Madrid not in the British Museum)

"The year six Kan, on the eleventh Muluc, in the month of Zac there occurred terrible earthquakes, which continued without intermission until the thirteenth Chuen. The country of the Hills of Mud, the Land of Mu, was sacrificed. Being twice upheaved, it suddenly disappeared during the night, the

basin being continually shaken by volcanic forces. Being confined, these caused the land to sink and rise several times, and in various places. At last the surface gave way, and the ten countries were torn asunder, and scattered in fragments. Unable to withstand the force of seismic convulsions, they sank, with their 64 millions of inhabitants, eight thousand and sixty years before the writing of this book ”.

In this connection, the comments of H. S. Bellamy are of interest.

“ Though this interpretation of the Troano rebuses is *not* “ accepted ”, it will be admitted by everyone that, from the point of view of Hoerbiger’s theory, the story contains nothing objectionable. Le Plongeon had no model after which to fasten a fake ending. Plato’s Atlantis myth, the *only* one which he could have known, is hardly helpful, except for the Ten Realms, and the Loss in One Night. It sounds too true to be invented, if it had been made up, he would surely have included some fantastic feature. Either Le Plongeon furnished us with the real meaning of the Mayan text, or, he wrote it inspired by a special flash of genius, as Jonathan Swift, for instance, in like manner described the sizes and movements of the two satellites of Mars, some two centuries before they were ‘ discovered ’.

One thing is to be regretted, we do not know when the Troano Codex was written, or if it is a copy, as indeed it would appear to be, when the original was composed. The Codex kept at Madrid is supposed to have been written about the year 1550, the date it gives is inconclusive.”

THE CHALDEAN INSCRIPTION OF 2,000 B.C. FROM
THE WALLS OF A BUDDHIST TEMPLE IN LHASA

“ When the star Bal fell on the place where is now only sea and sky, the Seven Cities with the Golden Gates, and their Transparent Temples, quivered and shook like the leaves of a tree in a storm. And behold a flood of smoke and fire arose from the palaces. Agony and cries of the multitude filled the air. They sought refuge in their temples and cities. And the wise Mu, the hieratic of Ra-Mu, arose and said unto them: “ Did I not predict all this.” And the women, and the men, in their precious stones and shining garments, lamented “ Mu, save us.” And Mu replied, “ You shall die, together

with your slaves and your riches, and from your ashes shall arise new nations. If they forget they are superior, not because of what they put on, but, because of what they put out, the same lot will befall them". Flame and smoke choked the words of Mu. The land and its inhabitants were torn to pieces, and swallowed by the depths in a few months".

One of the difficulties in considering this Buddhist story is the uncertainty about Mu. As most people know the name Lemuria was coined in the middle of the last century by Philip Lutly Slater the naturalist, to describe the hypothetical Pacific Continent, the name supposedly arising from the presence of lemurs over the entire area. It has not been possible to trace the use of the word Mu before then, but this does not preclude its existence. However since then many writers have used the term Mu to describe both Atlantis and the Pacific Continent, which makes the elucidation of texts more difficult. It is felt that no matter what may have happened in the past, the use of the name Mu should be restricted to the Pacific area and that of Atlantis retained exclusively for the Atlantic.

In considering the Schliemann story as a whole due recognition must be given to the statements of fact emanating from Heinrich Schliemann. The similarity of their style to the rest of the document would arise from the whole story being translated by one person, while the errors of fact seem to be more those of bad editing and proof reading than anything else.

Although the statements are sensational they carry conviction but it is difficult to understand why in the intervening years we have had neither confirmation or refutation from the lawyers, bankers, and others involved in the execution of the will of Heinrich Schliemann. It is the complete absence of negative evidence that tends to confirm the accuracy of the story, perhaps one day we shall know why not a voice was raised for or against it.

When it comes to Paul Schliemann himself we are confronted with a whole series of different problems.

1. In view of the sensation caused at the time it is strange that nobody connected with the Hearst Press has come forward to explain exactly how the article came into their hands, and whether it was written in German and trans-

lated—which would explain the numerous errors—and also, whether young Schliemann was in the United States at the time.

2. It is also strange that Paul did not follow up this statement with an elaboration of the thesis. The episode had created such a furore in the scientific world that he would have had no difficulty in arranging for publication.

3. Allowing for the time taken to finish his promised book on Atlantis, it would have been ready before the beginning of the first World War and some publisher must have heard of it.

4. The complete silence after 1918 confirms the view generally held that young Schliemann died either during or just after the war.

5. However information has come to hand that he left a widow who has since remarried and is now the wife of a prominent European statesman. If this is the case it seems a pity that the lady has not seen fit to furnish the world with some more details about the affair.

6. Finally surely there is somebody in France who could give us information on the following points:—

- (a) What was the name of the Paris Bank in which the papers were deposited ?
- (b) Who was the surviving member of the family from whom the envelope was obtained ?
- (c) In what bank were funds deposited for the research work ?
- (d) Who were the two French geological experts ?
- (e) Who was the Parisian friend of Heinrich who had the Central American collection ?
- (f) Did the Louvre show Central or South American material in 1883 ?

The Ice Age in South Africa

by E. J. SAWYER, F.R.S.A.

The geological formation around Laingsburg, a small town in the driest part of that semi-desert known as the Karroo, is largely linked up with the Ice Ages that once held sway in what today is South Africa. In that country there are

traces in the rock formations of not less than six ancient glaciations, the oldest one occurring over a thousand million years before the advent of man on this earth. Curiously enough South Africa escaped the latest, or Pleistocene, glaciation which was half a million years ago.

Tillite, the product of glaciers, has been found in each of our principal rock groups and affords remarkable evidence of the manner in which the climate of the earth has fluctuated during its history. Typical tillite consists of a fine-grained matrix of mudstone in which boulders carried by the ice are imbedded. Some of these boulders have been transported long distances and are quite foreign geologically, to the locality in which they are found today. Laingsburg is 2,500 feet above sea level but the mountains around rise to much higher altitudes, in some cases exceeding 7,500 feet. Running roughly east to west is a narrow valley, which averages one to ten miles in width, which is largely composed of tillite. Yet even this narrow valley is cut up by mountains contorted in a most peculiar manner. Inclined strata, horizontal strata, vertical strata and closely folded strata are mixed up together in a geological confusion. The general geological formation of the district, apart from the tillite, is shale and sandstone in which are found vertebrate fossils, while in the quartzite formations, which are everywhere obvious, are many marine fossils (Devonian).

This tillite, known as the Dwyka tillite, has been deposited by glacial action and originally came from the Barkley district which is more than 500 miles to the north. Deposits of tillite found elsewhere, possibly came from the Windhoek Highlands and elsewhere, and Professor King, the famous geologist, reports that some tillite has travelled more than 800 miles.

In addition to tillite all the usual associated phenomena of continental glaciation are known in connection with the Dwyka Series. Striations, soled pebbles, craig and tail are associated with glacial action. In passing I should like to mention that striated rocks and pavements (*rochers moutons*) are found at many places in South Africa. For instance the writer found a splendid example at Leeukuil in the Stormberg Mountains at an elevation of over 7,000 feet above sea level. This place is some 450 miles north east of Laingsburg.

A year or two ago I found a remarkable strata of marine fossils on a hill some 500 feet or so higher than the town of Laingsburg. This strata is no more than two feet wide and lies on top of the ground. It has very little thickness, say not more than six inches. There is another glacial zone, possibly less than 50 miles to the west, but separated by a huge mass of mountains known as the Cedarberg. Here the shale is 300 feet thick and above it is a curious reddish mudstone containing scattered pebbles and boulders with flattened and striated surfaces. In many respects this rock resembles Dwyka tillite which I have already shown to be of glacial origin. The length of this glacial bed is 23 miles. We get the same thing repeated at Ceres, which is only 75 miles from Cape Town. Here, among the striated and faceted quartzite pebbles is a quantity of glacial sand. Even on Table Mountain itself, which rises direct from the ocean, at 2,250 feet we find the same characteristics. All this indicates that the glacial area was a very large one and affected a large portion of the extreme southern part of the African continent.

The late Dr. Alex du Toit, perhaps the greatest authority on South African geology, in his book "Geology of South Africa" states: "The rock that was for a long time a puzzle to geologists, called by such names as "trap conglomerate" or "claystone-porphry" was considered by some observers to be of sedimentary and by others of volcanic origin. The name "Dwyka Conglomerate", from the Dwyka River near Laingsburg, is now known the world over, while its glacial origin is universally admitted. Moreover in India, Australia and South America almost identical deposits have been discovered with fossils closely allied to those of the Karroo system. The use of the term "conglomerate" is not a satisfactory one for the reason that the inclusions are rarely abundant enough to bring the rock within the usual definitions of a conglomerate. Again it is too hard to be termed boulder-clay. In the South, Laingsburg for example, the thickness of the tillite is almost 4,000 feet but the value diminishes in a northerly direction while north of latitude 27 degrees it is insignificant. Near Laingsburg the beds have been tilted up to a high angle, the width of the outcrop being sometimes under a mile. The available evidence indicates that over the bulk of the area

occupied by the Dwyka the tillite was a "ground moraine" the product of immense continental ice-caps, and that after the melting of the latter the covering of morainic matter became buried beneath Karroo sediments, i.e., the Upper Dwyka Shales. Five distinct tillite zones are indentifiable at Laingsburg where the ice-front apparently discharged into fairly deep water in which a thickness of over two thousand feet of glacial matter accumulated".

Though nothing of what I have written furthers the Hoerbiger Theory, it is interesting to observe that the incident of the Continental Drift, of which many scientists have written, suggests that there was once a large continent which we call Gondwanaland. This immense piece of land is represented by South America, Africa, India, Australia and Antarctica. These pieces of land reached their present detached positions through the fracturing of Gondwanaland and the lateral dispersal of the various fragments by "drifting" and "sliding" with the marine waters entering between them thus making each portion a separate identity. Space prevents me going further into this interesting study of the Dwyka Tillite and its manifestations in and around Laingsburg.

The Past of Halley's Comet

by Professor MICHAEL KAMIENSKI

The submersion of Poseidonia—this last remnant of Atlantis was the greatest catastrophe which mankind experienced several thousand years ago.

Readers of "Atlantean Research" (now "Atlantis") are well acquainted with this problem as there has been a series of articles published recently in this magazine, as well as the well-known books of Prof. H. Bellamy, "The Atlantean Myth," "Built before the Flood," etc. Although the very fact that the submersion of Poseidonia took place, speaking geologically not so long ago, presents no more doubts, yet neither the precise moment of this cataclysm nor its true causes are established in a sufficient manner. It is a fact that the very well known theory of Hoerbiger sketches a magnificent and formidable image of this cataclysm¹, but unfortunately, almost unknown to astronomers. It is however to be noted, that some of them

gave an indirect proof of it in considering the bright nebula in Cygnus, which appears as a series of light filaments. They are of the opinion that it is composed of minute crystals of ice. Other scientists hold the view that Poseidonia might have been submerged owing to the collision of any celestial mass with our earth, particularly with a fragment of a nucleus of Halley's Comet.

Col. A. Braghive, in his very interesting book, "L'Enigme de l'Atlantide," asserts that the computations have proved that Halley's Comet approached the Earth on 7 June 4,015 B.C.⁸ It is to be noted that the nucleus of this comet is by no means the "rien visible," as it was said to be by the physicist, Babinet in the middle of the XIX century. It is a conglomerate of stone masses with a diameter of about 30 km, weighing 30,000,000,000,000 tons. The orbit of Halley's Comet, a very elongated ellipse, does not keep its dimensions invariable as well as its position in space. This is the result of the great perturbations due to Jupiter and Saturn in the motion of this Comet. It was probably in the past situated closer to the Earth. One of the proofs of this assumption is the stream of shooting stars, Aquarides I and Orionides, which meet the Earth every year, moving along the orbit of Halley's Comet. They are the remnants of its disintegration. Col. A. Braghive's assumption may be true, nevertheless mathematically it has not yet been confirmed. By no means can one confirm the computations mentioned by him although the movements of Halley's Comet are known, though not exactly accurately, back to 240 BC. The position of its orbit before 240 BC. remains quite unknown. There is however no doubt that this famous Comet, this pride of England, appeared many times in the past millenia. Consequently the International Astronomical Union, at the Congress at Zurich in August 1948, approved the motion of the author, that the investigations on Halley's Comet prior to 240 BC. should be extended into the past as far as possible. However before this resolution was carried, the author took up the problem of the determination of an average period of revolution of Halley's Comet round the Sun, deducing main inequalities in its motion and finally, of the eventual identification of the apparitions of some unknown comets before 240 BC. with those of Halley's Comet. In his

papers printed in the Bulletins of the Polish Academy of Sciences, the author proved that the average period of revolution of this Comet is 76.903 Julian years, with an exactitude of 2-3 days. Since one of its perihelion passages happened in the very beginning of 837 AD. the author adopted this moment as initial. Thus all the moments T_k of the perihelion passages of this Comet can be found according to the simple formula

$$T_k = 837.00 \text{ AD} + 76,903 N \dots \dots \dots (1)$$

where $N=0, \pm 1, \pm 2, \pm 3 \dots$ are positives past 837 AD and negatives before it. In order to get a greater accuracy, this formula should be completed with the member P , i.e. with the sum of the periodical perturbations which however do not surpass 2-3 years.

Then formula (1) becomes

$$T_k = 837.00 \text{ AD} + 76.903 N + P \dots \dots \dots (2)$$

Now, on putting $N = -14, -16, \dots -61$ the author obtained the data given in the second column of the Table below. Thus they are the moments of apparitions or rather, of the perihelion passages of the Comet BC. It is to be noted that they are recorded astronomically, i.e. they are negatives.

E.g. $-471 = 472 \text{ BC}$.

The third column of the Table gives the years of the apparitions of certain *unknown* comets according to the old chronicles, mainly Chinese. They are given according to F. Baldet's list. As can be seen the accordance is very good. Consequently, the apparitions of the 7 unknown comets in the period -393 to -2315 are those of Halley's comet.

The author considers however his conclusion to be

a provisional one. The definite conclusion may be deduced only after the detailed examination and elaboration of the ancient chronicles.

The table above gives the years of the visibility of Halley's Comet, yet it gives no indications concerning the mutual positions of the Comet and Earth in their orbits. The task

N	T_k	Chron.
-14	- 237.7	- 239
-16	- 392.7	- 393
-17	- 471.0	- 466
-19	- 625.2	- 626
-34	-1776.7	-1770
-36	-1931.3	-1930
-40	-2242.4	-2241
-41	-2319.1	-2315
-61	-3856.5	—
-135	-9546.	—

of finding the elements of Halley's Comet orbit for such remote times, presents great difficulties and requires several years of computations by many astronomers. As long as it is not achieved, one cannot connect the apparitions of Halley's Comet with cataclysms on the Earth. It is however not out of the question that a part of the nucleus of this comet as a bulk of approximately 1 km diameter, might formerly have collided with the Earth. The consequences of such a collision might have been very calamitous, because the comet and the Earth are moving in space with the mutual velocity of 72 km/sec. But we have no scientific proofs that such a collision took place.

Finally by extending the formula as far back as N -61 we obtain a date of 3857.5 BC while N -135 gives us 9546 BC. The first is very close to the "Flood of Ogyges." St. Augustine writes that it happened in the times of Phoroneus, the King of the Pelasgians. It is close enough to the date of 3852 BC, the year of the Universal Flood according to the Bible. The year 9546 BC is very close to the year of the submersion of Poseidonia, according to Plato. On the contrary, Henseling's date 8498 BC for the beginning of the Maya calendar—does not fit any apparition of Halley's Comet.

These amazing "coincidences" should be investigated and elucidated during further researches on this problem. It is premature at present to draw any conclusions.
Cracow, Oct. 7, 1951.

REFERENCES:

- ¹ Atlantean Research, Vol. I, No. 5.
- ² Col. A. Braghine, "L'Enigme de l'Atlantide," pg. 161 *et seq.*
- ³ Bull. Polish Acad. of Sciences 1949, 1951.
- ⁴ M. F. Baldet, "Liste Générale des Comètes de l'origine à 1948."
- ⁵ St. Augustine, "De Civitate Dei" (The City of God).

The Calendar of Kalasasaya

(Second Article) by P. ALLAN

The Halo Symbols of the First Twelfth—Why they differ from those of the other Twelfths

From the fact that the pumas on the halo of the first Twelfth occupy the same positions as the toxodons and condors of the other Twelfths, it follows that they must relate

to the same events, or if not, to other events happening on the same days.

All the events symbolised by the toxodons and condors take place during daylight. (The 16th is an exception, but the toxodon may have no connection with the Satellite rising at midnight—it may mean that the special event is that there was no event at all, i.e. that the Satellite made no appearance above the horizon during daylight.)

The condor is "Lord of the Day." The toxodon also is connected only with daylight. The puma is "Master of the Night." Therefore to be symbolised by pumas the events happening on the special days must take place at night. But examination of Diagram 22 shows that nothing in the way of special events happen during the hours of darkness on the special days.

Now the events of the special days may be observed in two ways, or from two aspects—either from above the horizon or from below, e.g. the Satellite setting at noon above the horizon is the same event as the Satellite rising at midnight below the horizon.

There is therefore, a *prima facie* case for relating the pumas on the halo of the 1st Twelfth to the nights below the horizon of the days of the special events. In other words, the pumas may be related to the events of the special days as they would appear to an observer below the horizon.

A comparison of the special events above and below the horizon however, shows no correspondence between the symbols, e.g. 13th, Oval Disk, Satellite rises and sets same day (above) Lunar Eclipse at Sunset (below). It is apparent that the oval disk cannot be related to the latter event.

Attention is now drawn to a certain peculiarity of the eclipse cycle, viz., that the sequence of lunar eclipses corresponds, after a 12-day period, to the sequence of solar eclipses, the positions above and below the horizon being reversed. For example, the sunrise eclipse (solar) of the 1st, corresponds to the lunar eclipse just below the horizon before dawn on the 13th. Again, the solar eclipse on the 4th corresponds to the lunar eclipse below the horizon on the 16th. At the equinoxes the altitudes of the corresponding eclipses above and below the horizon are the same.

If the events above the horizon are compared, not with those below the horizon of the same days, but with those below the horizon after an interval of 12 days, the results are as follows :—

<i>Day</i>	<i>Symbol</i>	<i>Key events as seen by an observer above the horizon</i>	<i>Day</i>	<i>Symbol</i>	<i>Key events as seen by an observer below the horizon</i>
1st	Plume	Solar eclipse at Sunrise (beginning of Twelfth)	13th	Plumed Puma	Lunar eclipse at Sunset (Equinox)
4th	Toxodon	Solar eclipse at Noon	16th	Puma	Lunar eclipse at Midnight
7th	Condor	Solar eclipse at Sunset	19th	Puma	Lunar eclipse at Sunrise
10th	Toxodon	Satellite sets at Noon	22nd	Puma	Satellite sets at Midnight
13th	Oval Disk	Satellite rises and sets same day (Satellite rises at Sunrise) (Equinox)	1st	Oval Disk	Satellite rises and sets same day (Satellite rises at Sunset) (beginning of Twelfth)
16th	Toxodon	Day free of Satellite	4th	Puma	Night free of Satellite
19th	Condor	Satellite sets at Sunset	7th	Puma	Satellite sets at Sunrise
22nd	Toxodon	Satellite rises at Noon	10th	Puma	Satellite rises at Midnight

A definite correspondence between events and symbols is apparent in the above comparison. The oval disk day of the 13th (above) and the oval disk day of the 1st (below), both relate to the Satellite rising and setting on the same day. The Plume of the 1st (above) and the Plumed Puma of the 13th (below) both relate to eclipses. The three special eclipses (solars above) correspond to three lunar eclipses below the horizon.

The conclusion is inescapable that this correspondence is no mere chance but is fully intended and an integral part of the design and composition of the Calendar. It provides a very good reason for the presence of pumas in the Halo of the 1st Twelfth. Some further considerations arising from this may be added.

The equinox falls on the 13th (oval day above horizon), but if the halo symbols of the 1st are related to the events below the horizon after an interval of 12 days, it follows that the count of the days of the 1st Twelfth must start, exceptionally, from the oval day. The equinox is therefore symbolised, not by the oval disk, but by the Plumed Puma.

The Plumed Puma is therefore, a composite figure, showing not the corona shining above the eclipsing Satellite at a solar eclipse, but both Sun and Satellite rising at the same time on the east and west horizons respectively.

The *whole* of the 1st Twelfth (body—lunations, pedestal—passages, halo—events below horizon) may now be recognised as being representative of all the other Twelfths.

Finally, the above solution is a logical extension of a fact already established, that the Tiahuanacans were aware of the lunations below the horizon (*see Atlantis*, July 1951). It would appear that the makers of the Calendar must be given credit for a wider knowledge of the movements of the Sun and Satellite than was at first supposed.

THE SYMBOLS OVER THE HEADS

In the interpretation given in *Atlantis*, July 1951, the obliquity of the ecliptic was taken as $23\frac{1}{2}^{\circ}$. It was objected by Mr H. S. Bellamy however, that an obliquity of $23\frac{1}{2}^{\circ}$ was not consistent with the Hoerbiger Theory. Under this theory the Earth, at the date of the Calendar, would probably have a less inclination than $23\frac{1}{2}^{\circ}$, the effect of the Satellite being to reduce the Earth's inclination more and more until an almost vertical position was attained.

The solution previously given was based primarily on the dates on which the Sun attained the zenith; this hypothesis is retained. There are thus three factors involved in the problem (1) the obliquity (2) the latitude and (3) the dates of the zenith points.

As a basis for inquiry a latitude of 10°S is taken, since this is the latitude arrived at by Mr. Ashton on different considerations. Moreover, 10°S may be confirmed by the Winged Figures. It is possible that the Condor Figures are related to the equinoxes and it is significant that they look upwards at an angle of 80° which is the elevation of the equinoctial at a latitude of 10° .

Taking a latitude of 10°S it is found that the Sun will attain the zenith on the 6th of the 12th and the 17th of the 8th Twelfths when the obliquity is $16\frac{1}{2}^{\circ}$.

The symbols of the 12th and 8th may be read as applying to these dates if a value of 12 days is given to each condor—17th of 8th = 1 condor plus 5 "eggs"; 6th of 12th = 6 spaces on wing out of a total of 24 indicated by two condors (the rounded-off first division of the wing may indicate that the date is not quite the 6th, the exact date being 5.79 days of the 12th).

The symbols over the 2nd and 6th indicate that the Sun has reached the same distance to the north as it had to the south when it reached the zenith, viz., on the 18th day of the 2nd and the 8th of the 6th.

On the $23\frac{1}{2}$ of the 3rd the Sun is the same distance from the equinox as on the 4th of the 5th (shortened fish = 4 elongated fishes). Similarly, in the 9th and 11th, the dates being 20th of 9th and $\frac{1}{2}$ of 11th.

The year is thus divided into ten approximately equal parts:—

Period	1	Equinox to 18th of	2nd	..	30	days
"	2	" "	$23\frac{1}{2}$	" 3rd	..	$29\frac{1}{2}$ "
"	3	" "	4th	" 5th	..	$28\frac{1}{2}$ "
"	4	" "	8th	" 6th	..	28 "
"	5	" "	12th	" 7th	..	29 "
"	6	" "	17th	" 8th	..	29 "
"	7	" "	20th	" 9th	..	28 "
"	8	" "	$\frac{1}{2}$	" 11th	..	$28\frac{1}{2}$ "
"	9	" "	6th	" 12th	..	$29\frac{1}{2}$ "
"	10	" "	12th	" 1st	..	30 "

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If the year were divided into ten equal parts of 29 days each, the dates would not agree with the symbols. It would appear therefore, that the division of the year was primarily dependent on the indication of the zenith points and that, retaining these points, the best possible approximation to equal divisions was made. The purpose of this division of the year is not clear but may be connected with the ten group of Winged Figures.

In the 3rd and 11th Twelfths the two joined or banded condors cover 19 days. With the addition of two separate condors there are 21 days indicated by condors, leaving 3 fishes to cover 3 days, viz, the 22nd to 24th. A reason must be sought why the fish/condor demarcation does not coincide with the division of the year at this point.

The fishes on top of the 3rd and 11th seem to imply that these Twelfths as a whole are fish Twelfths. Again, the presence of the condors may imply that 21 days are to be counted as condor days. There is thus an indication that 21 days in each Twelfth may be counted variously as either fish or condor days.

In the 5th and 9th there is no such indication of condor days. These Twelfths are wholly fish.

In the 6th and 8th there are two fish days (the added days). The fish is incompatible with the halo symbols. The added days are, in fact, oval days, a symbol which is compatible. The presence of the fishes in these Twelfths may therefore be an indication that the period 1st of 6th to 25th of 8th may be counted when required as fish days.

In the period 1st of 3rd to 24th of 11th there are 218 fish days.

In the period 4th of 11th to 21st of 3rd there are 114 condor days. Doubled (as perhaps the double condors indicate) we have 228 days.

The total number of solar eclipses in one year is 446 ($37 \times 12 = 444$, plus 2 for added days). These are divided—visible 228, non-visible 218. It is possible, therefore, that the condors and fish are arranged in order to give an indication of the total number of solar eclipses in the year.

Again, the total number of lunar eclipses is 446 divided—visible 220, non-visible 226. The former figure is indicated

by counting the 19 banded condors only in the 3rd and 11th, this provides a reason why only 19 and not 21 are banded. The latter figure is not apparently indicated, unless perhaps the eight fishes over the 5th and 9th are to be added to the number 218.

NOTE.—The writer would be interested to hear from any member conversant with the Hoerbiger Theory whether an obliquity of $16\frac{1}{2}^{\circ}$ is consistent with the relative positions of Earth and Satellite at the time of the Calendar.

THE PARALLELOGRAMS ON THE STAFF

In *Atlantis*, July 1951, the parallelograms of the right hand staff were related to the passages across the sky. It is pointed out by Mr. H. S. Bellamy, that these may stand for the six and a half days between the sunrise eclipse of the 1st and the sunset eclipse of the 7th, thus providing a consistent interpretation of all the parallelograms on the Figure. The parallelograms on the staffs thus link up the three special eclipses—sunrise of 1st, noon of 4th and sunset of 7th. They act as a "key" or "gauge" to the correct reading of the symbols, establishing beyond doubt that the Twelfths began with the sunrise eclipse and that the equinox fell on the oval day (13th).

THE DATE OF THE AUTUMNAL EQUINOX

Additional to Note in Atlantis July 1951

In the appendix to "Built Before the Flood," Mr. Ashton gave reasons why in the 6th, 7th and 8th Twelfths, the days should be counted from the "oval day". This reading was necessary in order to keep the Plumes of the 6th and 8th and the abbreviated Puma of the 7th to the sunrise eclipse, and also to keep the abbreviated Puma to the equinox. With the equinox falling on the "oval day," it is not necessary to change from the 14th to the 2nd at the commencement of the 2nd cycle, instead, the 2nd cycle may be regarded as starting with the sunrise eclipse of the 14th (which thus becomes the 1st). Similarly at the 8th Twelfth when the 3rd cycle is started. The counting of the days of the 6th, 7th and 8th Twelfths, may therefore proceed normally as in the other Twelfths (except the 1st), i.e., anti-clockwise from the Plumes which indicate the 1st day of each Twelfth.





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